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“Environmental Challenges from Cargo Growth At The Port Of New York and New Jersey”

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**THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY**

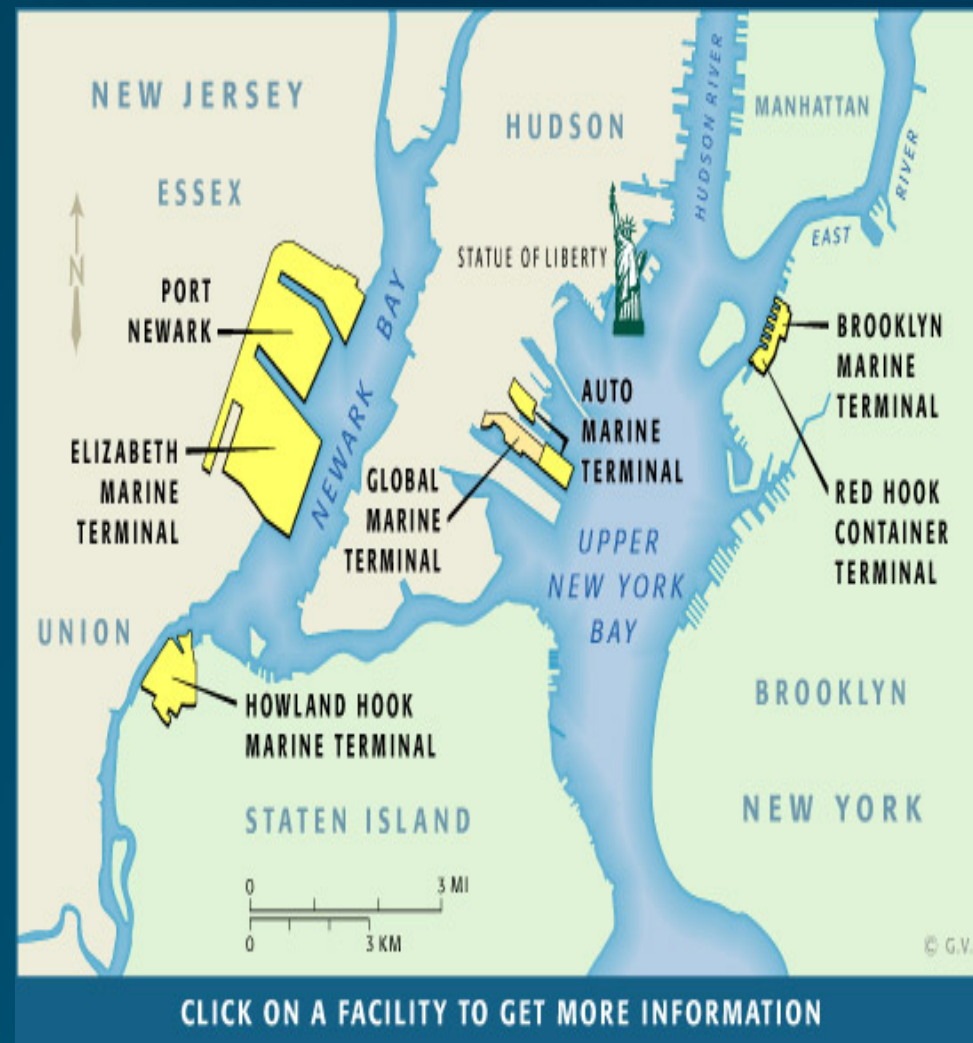
Port Authority Marine Terminals

New York :

- Brooklyn PA Marine Terminal
- Red Hook Container Terminal
- Howland Hook Marine Terminal

New Jersey:

- Port Newark
- Elizabeth PA Marine Terminal
- PA Auto Marine Terminal



Port of New York and New Jersey

- **Third largest in US**
- **Landlord port, 3000 acres, 120 tenants**
 - Containers, Autos, Bulks, Warehouses
- **2006: 5.1M TEU, 7% increase**
- **Projected cargo at 7% growth rate**
 - 2010: 6.4M TEU
 - 2016: 10.0M TEU
- **Economic engine: 233,000 jobs, \$12B wages, \$6B in taxes**
- **Triple Bottom Line**
 - Regional Prosperity + Financial Return + Environment and Security

Our Approach

Proactive Environmental Strategy

- **Comply with all regulations.**
- **Incorporate Sustainable Design into development**
- **Exceed all mitigation requirements associated with development.**
- **Undertake Voluntary Green Initiatives to address Environmental Impacts of Port Operations.**



What We Are Doing to Handle Growth – Waterside

Harbor Deepening Project

- Deepening Key Channels to 50' to accommodate larger ships
- Completion of all channels to 50' by 2014

Environmental Challenges

- Air Quality
- Loss of Wetlands
- Managing Dredged Material



Case Study Addressing Growth - Waterside

Actions to reduce Air Emissions:

- **Developed Harbor Air Management Plan**
 - **Retrofit Staten Island Ferry Fleet**
 - **Replace Engines on Marine Vessels**

Results: Generate over 400 tons/yr of NO_x Reduction, which is expected to double by 2009 and continue well beyond HDP completion.

Staten Island Ferry Barberi in Drydock for Engine Retrofit



Case Study Addressing Growth – Waterside Cont.

Actions to reduce Wetland Loss:

- **Wetland Creation and Enhancement:**
 1. **Medwick Park, Carteret, NJ**
 2. **Woodbridge Creek Ecosystem Restoration, Woodbridge, NJ**
 3. **Salt Marsh Mitigation at Keyspan, Staten Island, NY**
 4. **Elders Island Restoration, Jamaica Bay, Queens, NY**

Woodbridge Creek Ecosystem Restoration, Woodbridge, NJ



Elders Island Restoration, Jamaica Bay, Queens, NY.



Case Study Addressing Growth – Waterside Cont.

Beneficial Reuse of Dredged Material:

- **Creation of Artificial Reefs**
- **Shoreline Stabilization**
- **Brownfield Site Remediation**
- **Cap Historic Area Remediation Site**



What We Are Doing to Handle Growth – Land Side

- **Rail Enhancement:**
 - \$530M infrastructure – 1M lift capacity 2009
 - \$50M to NY and NJ for Rail Improvements
 - On Dock Rail- Elizabeth, Newark, Staten Island
 - Expanded Support Yard –Accommodate 2 mile train
 - Reactivation of Staten Island RR and Arthur Kill Lift Bridge
- **Virtual Container Yard (\$100K)**
- **Infrastructure for Electric Cranes**
- **Promoting SmartWay Partnership**

Chemical Coast North Connector - Development Program



What our Tenants Are Doing to Handle Growth – Land Side

Marine Tenant Actions:

- **Installed Electric Cranes**
- **Reoriented Footprints**
- **Installed Electronic Gates**
- **Extended gate hours**
- **Modernized CHE: Over 30% Reduction across all pollutants**
- **Ultra Low Sulfur Fuel for Non-road Equipment**
- **Use of CNG, Propane and Electrical Forklifts**

Installed Electrical Cranes



Additional Environmental Stewardship Programs

Harbor Restoration

- **\$60M Environmental Site Acquisition & Preservation**
- **\$9M Hudson-Raritan Estuary Restoration Project**
- **Wetland Creation**
- **\$31M Contaminant Studies and Reduction Strategies**
- **Harbor Roundtable**

Portfields

- **Warehouse/DC**

Green Port Program

- **EMS, Green Practices Task Force, Tenant Training**



Challenges (Issues that we have No Direct Control)

- Capacity of Off Port Road and Rail Network
- Emissions From Regional Trucks
- Emissions From Vessels Calling Port
- Emissions From Terminal Operations (Tenants)

The End

- Environmental Aspect To Everything We Do
- Concepts From EMS
- Partnerships Successful
 - HAMP, Wetlands, Rail
- Environmental & Business Goals Not Mutually Exclusive
 - CHE
 - Electric Cranes

